

Amendments to the Claims

Claim 1 (Currently Amended) An optical disc including a data area and a time map area, which is readable by a reproducing apparatus that preliminarily reads a table and performs a random access reproduction of a video object by referring to the table, the optical disc including a data area and a time map area,

the data area having recorded therein recording a video object that includes a plurality of data units, each of which contains at least one picture,

the time map area having recorded therein the recording a table showing recording addresses of data units, the recording addresses corresponding to a plurality of reproduction times that belong to a period during which the video object is reproduced, each of the data units containing a picture to be reproduced at a corresponding one of the plurality of reproduction times, and

the time map area further having recorded therein recording offset information used to correct the table after the first portion of the video object is deleted.

Claim 2 (Currently Amended) The optical disc of Claim 1, further including

a program chain area having recorded therein that records a plurality of sets of cell information, each of which includes a start time and an end time which are used to identify a reproduction section in the video object, the plurality of sets of cell information being recorded in correspondence with reproduction orders.

Claim 3 (Currently Amended) A recording apparatus for recording video data onto an optical disc, the recording apparatus comprising:

an input unit operable to receive input video data to be recorded;

a compressing unit operable to compress the input video data and generate a video object containing a plurality of data units, each of which contains at least one picture;

a writing unit operable to write data onto the optical disc; and

a control unit operable to control the writing unit, wherein

the control unit is operable to

- (a) control controls the writing unit to write the video object onto a data area of the optical disc,
- (b) generate generates a table showing recording addresses of data units, the recording addresses corresponding to a plurality of reproduction times that belong to a period during which the video object is reproduced, each of the data units containing a picture to be reproduced at a corresponding one of the plurality of reproduction times,
- (c) generate generates offset information used to correct the table after a the first portion of the video object is deleted, and
- (d) control controls the writing unit to write the table into a time map area of the optical disc.

Claim 4 (Currently Amended) The recording apparatus of Claim 3, wherein

when receiving a notification that the first portion of the video object has been deleted, the control unit is operable to update updates the table and the offset information in accordance with a reproduction time of the deleted first portion, and control-controls the writing unit to write the updated table and offset information.

Claim 5 (Currently Amended) The recording apparatus of Claim 3, wherein the optical disc further includes

a program chain area having recorded therein that records a plurality of sets of cell information, each of which includes a start time and an end time which are used to identify a reproduction section in the video object, the plurality of sets of cell information being recorded in correspondence with reproduction orders.

Claim 6 (Currently Amended) A recording method for use in a recording apparatus for recording onto an optical disc a video object containing a plurality of data units, each of which contains at least one picture, the recording method comprising the steps of:

- (a) writing the video object onto a data area of the optical disc; disc,
- (b) generating a table showing recording addresses of data units, the recording addresses corresponding to a plurality of reproduction times that belong to a period during which the video

object is reproduced, each of the data units containing a picture to be reproduced at a corresponding one of the plurality of reproduction times; times;

(e) generating offset information used to correct the table after a the first portion of the video object is deleted; deleted, and

(d) writing the table and the offset information onto a time map area of the optical disc.

Claim 7 (Currently Amended) The recording method of Claim 6, further comprising the step of

when receiving a notification that the first portion of the video object has been deleted, updating the table and the offset information in accordance with a reproduction time of the deleted first portion, and writing the updated table and offset information.

Claim 8 (Currently Amended) The recording method of Claim 6, wherein the optical disc further includes

a program chain area having recorded therein ~~that records~~ a plurality of sets of cell information, each of which includes a start time and an end time which are used to identify a reproduction section in the video object, the plurality of sets of cell information being recorded in correspondence with reproduction orders.

Claim 9 (Currently Amended) A reproducing apparatus for reproducing the video object recorded on the optical disc defined in Claim 1, the reproducing apparatus comprising:

a reading unit operable to read data from the optical disc;

a reproducing unit operable to reproduce the video object; and

a control unit operable to control the reading unit and the reproducing unit, wherein the control unit is operable to

(a) receive receives an input reproduction start time,

(b) control controls the reading unit to read out the table and the offset information,

(c) refer refers to the read-out table and offset information and identify identifies a data unit that includes a picture to be reproduced at the input reproduction start time, and

(d) control controls the reading unit and the reproducing unit to start reproducing in accordance with the identified data unit.

Claim 10 (Currently Amended) The reproducing apparatus of Claim 9, wherein the optical disc further includes

a program chain area having recorded therein that ~~records~~ a plurality of sets of cell information, each of which includes a start time and an end time which are used to identify a reproduction section in the video object, the plurality of sets of cell information being recorded in correspondence with reproduction orders.

Claim 11 (Currently Amended) A reproduction method for use in a reproducing apparatus for reproducing the video object recorded on the optical disc defined in Claim 1, the reproduction method comprising ~~the steps of~~:

- (a) receiving an input reproduction start time; time,
- (b) controlling a the reading unit to read out the table and the offset information; information,
- (c) referring to the read-out table and offset information and identifying a data unit that includes a picture to be reproduced at the input reproduction start time; time, and
- (d) controlling the reading unit and a the reproducing unit to start reproducing in accordance with the identified data unit.

Claim 12 (Currently Amended) The reproduction method of Claim 11, wherein the optical disc further includes

a program chain area having recording therein that ~~records~~ a plurality of sets of cell information, each of which includes a start time and an end time which are used to identify a reproduction section in the video object, the plurality of sets of cell information being recorded in correspondence with reproduction orders.

Claim 13 (Currently Amended) A program recorded on a computer-readable recording medium ~~recording a~~ program for use in a recording apparatus for recording onto an optical disc a video object containing a plurality of data units, each of which contains at least one picture, the program allowing the recording apparatus-a computer to execute ~~the steps of~~:

- (a) writing the video object onto a data area of the optical disc; disc,

- (b) generating a table showing recording addresses of data units, the recording addresses corresponding to a plurality of reproduction times that belong to a period during which the video object is reproduced, each of the data units containing a picture to be reproduced at a corresponding one of the plurality of reproduction times; times,
- (e) generating offset information used to correct the table after a the first portion of the video object is deleted; deleted, and
- (d) writing the table and the offset information onto a time map area of the optical disc.

Claim 14 (Currently Amended) The program-computer-readable recording medium of Claim 13, wherein the program further allows the computer to execute the step of
when receiving a notification that the first portion of the video object has been deleted, updating the table and the offset information in accordance with a reproduction time of the deleted first portion, and writing the updated table and offset information.

Claim 15 (Currently Amended) The program-computer-readable recording medium of Claim 13, wherein the optical disc further includes
a program chain area having recorded therein ~~that records~~ a plurality of sets of cell information, each of which includes a start time and an end time which are used to identify a reproduction section in the video object, the plurality of sets of cell information being recorded in correspondence with reproduction orders.

Claim 16 (Currently Amended) A program recorded on a computer-readable recording medium ~~recording a program~~ for use in a reproducing apparatus including (a) a reading unit operable to read data from the optical disc defined in Claim 1 and (b) a reproducing unit operable to reproduce a video object, the program allowing the reproducing apparatus ~~a computer~~ to execute the steps of:

- (a) receiving an input reproduction start time; time,
- (b) controlling the reading unit to read out the table and the offset information; information,
- (c) referring to the read-out table and offset information and identifying a data unit that includes a picture to be reproduced at the input reproduction start time; time, and

| (d) controlling the reading unit and the reproducing unit to start reproducing in accordance
| with the identified data unit.

| **Claim 17 (Currently Amended)** The ~~program-computer-readable recording medium~~ of Claim
| 16, wherein the optical disc further includes

| a program chain area ~~having recorded therein that records~~ a plurality of sets of cell
information, each of which includes a start time and an end time which are used to identify a
reproduction section in the video object, the plurality of sets of cell information being recorded
in correspondence with reproduction orders.